

=> file reg

FILE 'REGISTRY' ENTERED AT 16:53:51 ON 13 JUN 2007

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STRUCTURE FILE UPDATES: 12 JUN 2007 HIGHEST RN 937161-92-7

DICTIONARY FILE UPDATES: 12 JUN 2007 HIGHEST RN 937161-92-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

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<http://www.cas.org/support/stngen/stndoc/properties.html>

=> file hcaplus

FILE 'HCAPLUS' ENTERED AT 16:53:55 ON 13 JUN 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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FILE COVERS 1907 - 13 Jun 2007 VOL 146 ISS 25

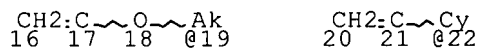
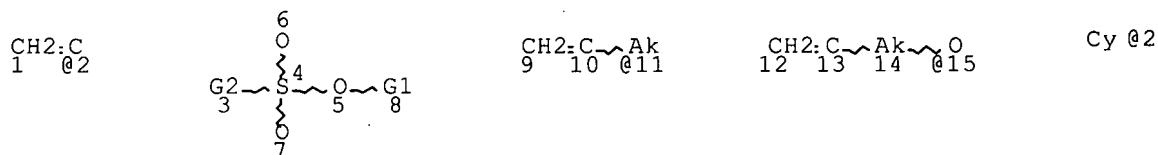
FILE LAST UPDATED: 12 Jun 2007 (20070612/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que

L3	2075	SEA	FILE=REGISTRY	ABB=ON	PBI/PCT
L6	130069	SEA	FILE=REGISTRY	ABB=ON	333.401.37/RID
L7	1434	SEA	FILE=REGISTRY	ABB=ON	L6 AND PMS/CI
L10			STR		



Page 1-A

3

Page 1-B

VAR G1=H/AK/23

VAR G2=2/11/15/19/22

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 6

CONNECT IS E1 RC AT 7

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 22

GGCAT IS UNS AT 23

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

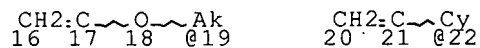
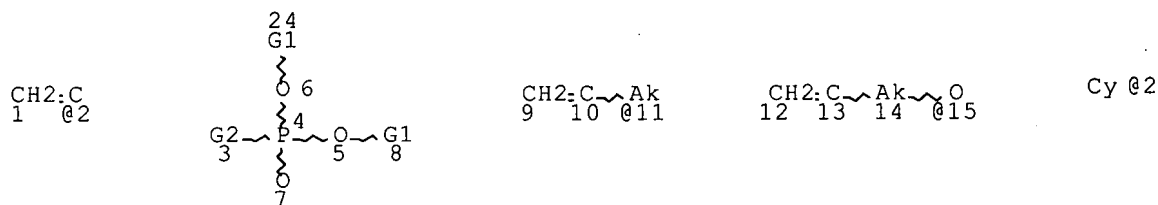
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE

L12 6921 SEA FILE=REGISTRY SSS FUL L10

L17 STR



Page 1-A

3

Page 1-B

VAR G1=H/AK/23

VAR G2=2/11/15/19/22

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 7

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 22  
GGCAT IS UNS AT 23  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 24

## STEREO ATTRIBUTES: NONE

L22 1671 SEA FILE=HCAPLUS ABB=ON L3  
L23 1472 SEA FILE=HCAPLUS ABB=ON L7  
L24 4062 SEA FILE=HCAPLUS ABB=ON L22 OR L23 OR POLYBENZIMIDAZOL?  
L28 11071 SEA FILE=HCAPLUS ABB=ON L12  
L39 65 SEA FILE=REGISTRY SUB=L12 SSS FUL L17  
L40 39 SEA FILE=HCAPLUS ABB=ON L39  
L51 1124 SEA FILE=REGISTRY ABB=ON 1184-84-5/CRN  
L52 350 SEA FILE=REGISTRY ABB=ON 1746-03-8/CRN  
L53 30 SEA FILE=REGISTRY ABB=ON L51 AND L52  
L54 19 SEA FILE=HCAPLUS ABB=ON L53  
L68 613 SEA FILE=HCAPLUS ABB=ON L52  
L72 2 SEA FILE=REGISTRY ABB=ON (596130-67-5/BI OR 596130-68-6/BI)  
L73 1 SEA FILE=HCAPLUS ABB=ON L72  
L74 249 SEA FILE=HCAPLUS ABB=ON L28 AND SWELL?  
L75 1 SEA FILE=HCAPLUS ABB=ON L73 AND SWELL?  
L76 249 SEA FILE=HCAPLUS ABB=ON L74 OR L75  
L77 1 SEA FILE=HCAPLUS ABB=ON L76 AND L24  
L78 2 SEA FILE=HCAPLUS ABB=ON L24 AND L40  
L80 1 SEA FILE=HCAPLUS ABB=ON L74 AND L24  
L81 1 SEA FILE=HCAPLUS ABB=ON L74 AND L54  
L82 4 SEA FILE=HCAPLUS ABB=ON L74 AND L74 AND L68  
L83 163 SEA FILE=HCAPLUS ABB=ON (L28 OR VINYL SULFON?) AND (L54 OR L40  
OR ?VINYLPHOSPHO?)  
L84 8 SEA FILE=HCAPLUS ABB=ON L83 AND SWELL?  
L85 1 SEA FILE=HCAPLUS ABB=ON L84 AND L24  
L86 10 SEA FILE=HCAPLUS ABB=ON L75 OR L77 OR L78 OR (L80 OR L81 OR  
L82) OR L84 OR L85  
L87 31231 SEA FILE=HCAPLUS ABB=ON MEMBRANE?(L) PREP/RL  
L88 4 SEA FILE=HCAPLUS ABB=ON L83 AND L87  
L89 12 SEA FILE=HCAPLUS ABB=ON L86 OR L88

=> d 189 bib abs ind hitstr 1-12

L89 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN  
AN 2005:220178 HCAPLUS Full-text  
DN 142:281226  
TI Damage-resistant superabsorbent materials  
IN Qin, Jian; Schueler, Kenneth R.; Wilhelm, Hoa La; Soerens, Dave Allen  
PA Kimberly-Clark Worldwide, Inc., USA  
SO U.S. Pat. Appl. Publ., 18 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	US 2005054784	A1	20050310	US 2003-655940	20030905
	US 7179851	B2	20070220		
	WO 2005025628	A1	20050324	WO 2004-US10204	20040402
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
 ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
 SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,  
 TD, TG

DE 112004001524	T5	20060608	DE 2004-112004001524	20040402
CN 1835772	A	20060920	CN 2004-80023516	20040402
JP 2007503991	T	20070301	JP 2006-525312	20040402
PRAI US 2003-655940	A	20030905		
WO 2004-US10204	W	20040402		

AB This invention relates to a superabsorbent material treated to resist damage when subjected to an Absorbent Product Processing Simulation Test, which simulates the mech. damage that occurs during current com. diaper manufacturing processes. The treated superabsorbent material has a centrifuge retention capacity of about 15 g or greater of 0.9% NaCl per g of the superabsorbent material and a gel bed permeability (GBP) at 0 psi **swell** pressure on pre-screened particles of about 200 (+10-9 cm<sup>2</sup>) or greater. After subjecting the treated superabsorbent material to the Absorbent Product Processing Simulation Test, the treated superabsorbent may exhibit minimal reduction in GBP of pre-screened or un-screened particles at 0 psi or at 0.3 psi **swell** pressure, as well as possibly exhibiting minimal reduction in average particle size diameter (PSD). The superabsorbent material can be treated by adding an aqueous solution of a hydrophilic soft polymer to the superabsorbent material, mixing the superabsorbent material with the aqueous solution, and drying the superabsorbent material.

IC ICM C08F020-56  
 INCL 525329400; X52-532.97  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 63  
 ST diaper superabsorbent damage resistant treatment hydrophilic soft polymer  
 IT Cellulose pulp  
 Diapers  
 Polyelectrolytes  
 Superabsorbents  
 (manufacture of damage-resistant superabsorbent materials by treatment with hydrophilic soft polymer)

IT 9012-76-4, Chitosan 25104-18-1, Polylysine 30551-89-4, Polyallylamine 38000-06-5, Polylysine  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
 (manufacture of damage-resistant superabsorbent materials by treatment with hydrophilic soft polymer)

IT 9000-07-1D, Carrageenan, salts 25608-40-6D, Polyaspartic acid, salts 26063-13-8D, Polyaspartic acid, salts 37522-67-1, Polydiallyldimethylammonium hydroxide  
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (manufacture of damage-resistant superabsorbent materials by treatment with hydrophilic soft polymer)

IT 847237-08-5P, Acrylic acid-2-(acryloyloxy)ethyltrimethylammonium chloride-3-(trimethoxysilyl)propyl methacrylate copolymer 849461-92-3P, 2-(Acryloyloxy)ethyltrimethylammonium methyl sulfate-3-(trimethoxysilyl)propyl methacrylate copolymer  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP

(Preparation); USES (Uses)

(soft polymer; manufacture of damage-resistant superabsorbent materials by treatment with hydrophilic soft polymer)

IT 9003-01-4D, Polyacrylic acid, salts 9004-32-4D, Carboxymethyl cellulose, salts 9005-32-7D, Alginic acid, salts 24991-23-9D, salts 25513-46-6D, Polyglutamic acid, salts 26101-52-0D, Polyvinylsulfonic acid, salts 26336-38-9D, Polyvinylamine, salts 26426-80-2D, Isobutylene-maleic anhydride copolymer, salts 27119-07-9D, 2-Acrylamido-2-methylpropanesulfonic acid polymer, salts 27754-99-0D, Polyvinylphosphonic acid, salts 28391-17-5D, Polyvinylacetic acid, salts 194739-20-3, Drytech 2035 227623-76-9, Favor 880 438632-06-5, Favor SXM 9543

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(superabsorbent; manufacture of damage-resistant superabsorbent materials

by

treatment with hydrophilic soft polymer)

IT 26101-52-0D, Polyvinylsulfonic acid, salts 27754-99-0D, Polyvinylphosphonic acid, salts

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(superabsorbent; manufacture of damage-resistant superabsorbent materials

by

treatment with hydrophilic soft polymer)

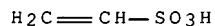
RN 26101-52-0 HCAPLUS

CN Ethenesulfonic acid, homopolymer (CA INDEX NAME)

CM 1

CRN 1184-84-5

CMF C2 H4 O3 S



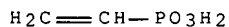
RN 27754-99-0 HCAPLUS

CN Phosphonic acid, P-ethenyl-, homopolymer (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:934300 HCAPLUS Full-text

DN 141:381917

TI Compositions and methods of stabilizing subterranean formations containing reactive shales

IN Eoff, Larry S.; Reddy, B. Raghava; Wilson, J. Michael

PA USA

SO U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of U.S. Ser. No. 806,894.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 4

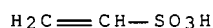
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004220058	A1	20041104	US 2004-862132	20040604
	US 2004045712	A1	20040311	US 2002-236722	20020906
	US 7091159	B2	20060815		
	US 2005230116	A1	20051020	US 2004-893210	20040716
	US 7207387	B2	20070424		
	WO 2005119003	A1	20051215	WO 2005-GB1594	20050426
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2002-236722	A2	20020906		
	US 2004-806894	A2	20040323		
	US 2004-825001	A2	20040415		
	US 2004-862132	A2	20040604		
AB	Well bore stabilization and, more particularly, treatment fluids that may reduce the tendency of shales to <b>swell</b> is carried out by contacting the subterranean formation that comprises the shale with a treatment fluid, the treatment fluid comprising a base fluid, and a hydrophobically modified polymer. In other embodiments, the treatment fluids comprise a base fluid and a hydrophilically modified polymer. In yet other embodiments, the present invention provides shale-inhibiting components, treatment fluids, and methods of reducing the tendency of shale to <b>swell</b> when exposed to a treatment fluid.				
IC	ICM E21B043-00				
INCL	507200000				
CC	51-2 (Fossil Fuels, Derivatives, and Related Products)				
ST	well treatment fluid hydrophilic polymer				
IT	Polyethers, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(amines; compns. and methods of stabilizing subterranean formations containing reactive shales)				
IT	Gums and Mucilages				
	Well treatment fluids				
	(compns. and methods of stabilizing subterranean formations containing reactive shales)				
IT	Shale				
	RL: CPS (Chemical process); EPR (Engineering process); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)				
	(compns. and methods of stabilizing subterranean formations containing reactive shales)				
IT	Polyamides, uses				
	Polyoxyalkylenes, uses				
	Polysulfones, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(compns. and methods of stabilizing subterranean formations containing reactive shales)				

IT 79-06-1D, Acrylamide, quaternary salts 88-12-0, uses 108-05-4, Vinyl acetate, uses 593-67-9, Vinylamine 818-61-1 **1184-84-5**, **Vinylsulfonic acid** 1746-03-8, **Vinylphosphonic acid** 2235-00-9, Vinyl caprolactam 2680-03-7, N,N-Dimethylacrylamide 2867-47-2, Dimethylaminoethyl methacrylate 5039-78-1 6296-61-3, N,N-Diallylacetamide 9002-98-6 9004-34-6, Cellulose, uses 9005-25-8, Starch, uses 9012-76-4, Chitosan 13162-05-5, N-Vinylformamide 25104-18-1, Polylysine 25154-86-3, Polydimethylaminoethyl methacrylate 25190-06-1, Polybutylene oxide 25190-06-1D, Polybutylene oxide, polymers 25322-68-3, Polyethylene oxide 25322-68-3D, Polyethylene oxide, Epichlorohydrin-terminated 25322-68-3D, Polyethylene oxide, polymers 25322-69-4, Polypropylene oxide 25322-69-4D, Polypropylene oxide, polymers 25377-73-5, Dodecenylsuccinic acid anhydride 25568-39-2 26655-25-4 26680-54-6, Octenylsuccinic anhydride 26914-43-2, Styrenesulfonic acid 28675-43-6 28805-58-5, Octenylsuccinic acid 28805-58-5D, esters and amides 29658-97-7, Dodecenylsuccinic acid 29658-97-7D, Dodecenylsuccinic acid, esters or amides 48042-45-1D, Dimethyldiallylammonium, halides 67296-21-3, Dimethylaminopropylmethacrylamide 67296-21-3D, Dimethylaminopropylmethacrylamide, polymers 112593-05-2 393110-04-8, Polydimethylaminopropylmethacrylamide 781615-13-2 781615-14-3  
RL: MOA (Modifier or additive use); USES (Uses)  
(compns. and methods of stabilizing subterranean formations containing reactive shales)

IT **1184-84-5, Vinylsulfonic acid**  
RL: MOA (Modifier or additive use); USES (Uses)  
(compns. and methods of stabilizing subterranean formations containing reactive shales)

RN 1184-84-5 HCAPLUS

CN Ethenesulfonic acid (CA INDEX NAME)



L89 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:913467 HCAPLUS Full-text

DN 139:384023

TI Method of preparation of polymer electrolyte membrane for fuel cells

IN Kiefer, Joachim; Uensal, Oemer

PA Celanese Ventures GmbH, Germany

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2003096465	A1	20031120	WO 2003-EP4914	20030512
W: BR, CA, CN, JP, KR, MX, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
DE 10220818	A1	20031120	DE 2002-10220818	20020510
CA 2485564	A1	20031120	CA 2003-2485564	20030512
EP 1506591	A1	20050216	EP 2003-727465	20030512
EP 1506591	B1	20061129		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				

CN	1653640	A	20050810	CN	2003-810598	20030512
JP	2005525683	T	20050825	JP	2004-504331	20030512
AT	347180	T	20061215	AT	2003-727465	20030512
US	2006166067	A1	20060727	US	2004-513895	20041208
PRAI	DE 2002-10220818	A	20020510			
WO	2003-EP4914	W	20030512			

AB The invention relates to a proton-conducting polymer electrolyte membrane which is based on **polyvinylphosphonic** acid/polyvinylsulfonic acid polymers and can be used for a variety of purposes due to the excellent chemical and thermal properties thereof. The inventive membrane is particularly suitable as a polymer electrolyte membrane in PEM fuel cells.

IC ICM H01M008-10

ICS C08J005-22; B01D071-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 38

ST polymer electrolyte membrane fuel cell

IT Fuel cell electrolytes

(method of preparation of polymer electrolyte membrane for fuel cells)

IT Fuel cells

(solid electrolyte; method of preparation of polymer electrolyte membrane for fuel cells)

IT 110161-68-7DP, Vinylphosphonic acid-vinylsulfonic acid copolymer, derivs.

RL: DEV (Device component use); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)

(method of preparation of polymer electrolyte **membrane** for fuel cells)

IT 110161-68-7DP, Vinylphosphonic acid-vinylsulfonic acid copolymer, derivs.

RL: DEV (Device component use); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)

(method of preparation of polymer electrolyte **membrane** for fuel cells)

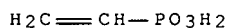
RN 110161-68-7 HCAPLUS

CN Ethenesulfonic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

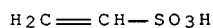
CMF C2 H5 O3 P



CM 2

CRN 1184-84-5

CMF C2 H4 O3 S



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT



L89 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:719543 HCAPLUS Full-text

DN 139:248013

TI Manufacture of proton-conducting fuel cell electrolyte membrane having reduced methanol permeability

IN Kiefer, Joachim; Uensal, Oemer; Calundann, Gordon; Crivello, James

PA Celanese Ventures GmbH, Germany

SO PCT Int. Appl., 58 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2003074597	A1	20030912	WO 2003-EP2397	20030304
	W: BR, CA, CN, JP, KR, MX, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				
	IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	DE 10209685	A1	20030918	DE 2002-10209685	20020306
	DE 10210499	A1	20030925	DE 2002-10210499	20020311
	CA 2478530	A1	20030912	CA 2003-2478530	20030304
	EP 1483316	A1	20041208	EP 2003-743390	20030304
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
	IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
	US 2005118477	A1	20050602	US 2003-506387	20030304
	JP 2005519428	T	20050630	JP 2003-573059	20030304
	CN 1639239	A	20050713	CN 2003-805300	20030304
PRAI	DE 2002-10209685	A	20020306		
	DE 2002-10210499	A	20020311		
	WO 2003-EP2397	W	20030304		
AB	A title membrane was manufactured by (A) <b>swelling</b> a polymer film with a liquid comprising <b>vinylsulfonic</b> acid and (B) polymerization of the <b>vinylsulfonic</b> acid present in the liquid used in step (A). For example, heating aqueous solution containing <b>vinylsulfonic</b> acid (obtained by acidification of Na <b>vinylsulfonate</b> with acidic ion exchanger) and <b>vinylphosphonic</b> acid for 1 h at 70°, adding CN-120 (epoxy acrylate) and Irgacure 184, heating the solution for 30 min at 70°, immersing a <b>polybenzimidazole</b> film in the mixture and heating for 3 h at 80°, placing the resulting film between transparent polypropylene (PP) films, irradiating both sides of the laminate and separating PP films gave a title membrane. The typical weight gain of the membrane was 350%.				
IC	ICM C08J007-16				
	ICS H01M008-10; C08J005-22				
CC	52-2 (Electrochemical, Radiational, and Thermal Energy Technology)				
	Section cross-reference(s): 35, 38				
ST	polyvinylsulfonic acid <b>polybenzimidazole</b> film proton conducting electrolyte membrane manuf; <b>polybenzimidazole</b> film <b>vinylsulfonic vinylphosphonic</b> acid polymn fuel cell membrane; proton conducting membrane manuf <b>vinylsulfonic</b> acid epoxy acrylate polymer				
IT	<b>Polybenzimidazoles</b>				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(films; manufacture of <b>vinylsulfonic</b> acid copolymer proton-conducting fuel cell electrolyte membrane)				
IT	Fuel cell electrolytes				
	Fuel cell separators				
	(manufacture of <b>vinylsulfonic</b> acid copolymer proton-conducting fuel cell electrolyte membrane)				
IT	<b>596130-67-5P</b> , CN 120- <b>Vinylphosphonic</b> acid- <b>Vinylsulfonic</b> acid copolymer <b>596130-68-6P</b> , CN				

120-Styrenesulfonic acid-Vinylphosphonic acid copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(membrane; manufacture of vinylsulfonic acid copolymer  
proton-conducting fuel cell electrolyte membrane)

IT 596130-67-5P, CN 120-Vinylphosphonic acid-

Vinylsulfonic acid copolymer 596130-68-6P, CN

120-Styrenesulfonic acid-Vinylphosphonic acid copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(membrane; manufacture of vinylsulfonic acid copolymer  
proton-conducting fuel cell electrolyte membrane)

RN 596130-67-5 HCAPLUS

CN Phosphonic acid, ethenyl-, polymer with CN 120 and ethenesulfonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 163206-65-3

CMF Unspecified

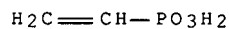
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 1746-03-8

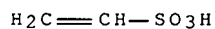
CMF C2 H5 O3 P



CM 3

CRN 1184-84-5

CMF C2 H4 O3 S



RN 596130-68-6 HCAPLUS

CN Phosphonic acid, ethenyl-, polymer with CN 120 and ethenylbenzenesulfonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 163206-65-3

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 26914-43-2

CMF C8 H8 O3 S  
CCI IDS



D1-CH=CH2

D1-SO3H

CM 3

CRN 1746-03-8  
CMF C2 H5 O3 P

H2C=CH-PO3H2

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:719541 HCAPLUS Full-text

DN 139:231745

TI Manufacture of proton-conducting polymer membranes for fuel cells from mixtures of polymers with **vinylsulfonic** acid monomers

IN Kiefer, Joachim; Uensal, Oemer

PA Celanese Ventures GmbH, Germany

SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

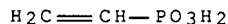
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2003074595	A1	20030912	WO 2003-EP2395	20030304
	W: BR, CA, CN, JP, KR, MX, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	DE 10209684	A1	20030925	DE 2002-10209684	20020306
	DE 10210500	A1	20031009	DE 2002-10210500	20020311
	CA 2477863	A1	20030912	CA 2003-2477863	20030304
	EP 1485427	A1	20041215	EP 2003-711948	20030304
	EP 1485427	B1	20060118		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
	US 2005118478	A1	20050602	US 2003-506622	20030304
	CN 1649945	A	20050803	CN 2003-810165	20030304
	JP 2005526875	T	20050908	JP 2003-573057	20030304
	AT 316111	T	20060215	AT 2003-711948	20030304
PRAI	DE 2002-10209684	A	20020306		

DE 2002-10210500 A 20020311

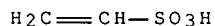
WO 2003-EP2395 W 20030304

- AB A proton-conducting polymer membrane based on poly(**vinylsulfonic acid**), useful especially as a polymer-electrolyte-membrane (PEM) in PEM-fuel cells, is manufactured by (A) mixing a polymer with **vinylsulfonic acid monomer**, (B) forming a planar structure by using the mixture from step (A) on a support, and (C) polymerizing the **vinylsulfonic acid monomer** in the planar structure prepared in step (B). A title membrane was prepared by treating **polybenzimidazole** (PBI) with H<sub>3</sub>PO<sub>4</sub> for 4 h at 160°, neutralizing and washing the PBI with H<sub>2</sub>O, drying, dissolving the PBI in **vinylphosphonic acid**, adding aqueous **vinylsulfonic acid** solution (preparation from Na **vinylsulfonate** given), casting a film on a PET polyester substrate and irradiating with electron beam.
- IC ICM C08J005-22  
ICS B01D007-00; H01M008-02
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 35, 76
- ST **polybenzimidazole vinylsulfonic vinylphosphonic acid copolymn proton conducting membrane manuf; interpenetrating network polybenzimidazole vinylsulfonic vinylphosphonic acid copolymer electrolyte membrane; fuel cell membrane polybenzimidazole vinylsulfonic vinylphosphonic acid copolymer manuf; electron beam polymn vinylsulfonic vinylphosphonic acid fuel cell membrane**
- IT Membranes, nonbiological  
(conductive; manufacture of proton-conducting polymer membranes for fuel cells from mixts. of polymers with **vinylsulfonic acid monomers**)
- IT Membranes, nonbiological  
(elec. conductive; manufacture of proton-conducting polymer membranes for fuel cells from mixts. of polymers with **vinylsulfonic acid monomers**)
- IT Fuel cell separators  
Fuel cells  
(manufacture of proton-conducting polymer membranes for fuel cells from mixts. of polymers with **vinylsulfonic acid monomers**)
- IT **Polybenzimidazoles**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(membranes; manufacture of proton-conducting polymer membranes for fuel cells from mixts. of polymers with **vinylsulfonic acid monomers**)
- IT **110161-68-7P, Vinylphosphonic acid-Vinylsulfonic acid copolymer**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(interpenetrating network with **polybenzimidazole, membrane**; manufacture of proton-conducting polymer **membranes** for fuel cells from mixts. of polymers with **vinylsulfonic acid monomers**)
- IT **110161-68-7P, Vinylphosphonic acid-Vinylsulfonic acid copolymer**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(interpenetrating network with **polybenzimidazole, membrane**; manufacture of proton-conducting polymer **membranes** for fuel cells from mixts. of polymers with **vinylsulfonic acid monomers**)
- RN 110161-68-7 HCAPLUS
- CN Ethenesulfonic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8  
CMF C2 H5 O3 P

CM 2

CRN 1184-84-5  
CMF C2 H4 O3 SRE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:566112 HCAPLUS Full-text

DN 131:185914

TI Membrane filtration of polymer containing solutions

IN Zakikhani, Mohsen

PA Albright &amp; Wilson Uk Limited, UK

SO PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 9943744	A1	19990902	WO 1999-GB299	19990128
	W: AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, MG, MK, MN, MX, NO, NZ, PL, SG, SK, SL, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 939100	A1	19990901	EP 1998-306674	19980820
	EP 939100	B1	20050126		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	AT 287921	T	20050215	AT 1998-306674	19980820
	US 6162340	A	20001219	US 1998-139791	19980825
	CA 2321727	A1	19990902	CA 1999-2321727	19990128
	AU 9922908	A	19990915	AU 1999-22908	19990128
	AU 737961	B2	20010906		
	BR 9907840	A	20001024	BR 1999-7840	19990128
	JP 2002504610	T	20020212	JP 2000-533490	19990128
	NZ 505533	A	20021220	NZ 1999-505533	19990128
	IN 193696	A1	20040731	IN 2000-MN164	20000707
	NO 2000004166	A	20000821	NO 2000-4166	20000821
PRAI	GB 1998-3812	A	19980225		
	WO 1999-GB299	W	19990128		

AB In a method for recovering polymers in a substantially pure form from a solution containing the polymers (e.g., acrylic acid-**vinylphosphonic acid** copolymer), the solution is 1st treated with a reactant (e.g. an acid and/or a sequestrant; 98% H2SO4) to form the free polymers and salts of the reactant and 2nd the solution is treated to remove the salts therefrom and in a final stage the polymer solution is concentrated (e.g. to 20% solution) and the polymers are recovered (spray drying). The 2nd treatment step may consist of membrane-filtration (e.g., ES 404 membrane), ion-exchange or electrodialysis.

IC ICM C08J011-08  
ICS C08J003-14

CC 38-2 (Plastics Fabrication and Uses)

ST acrylic acid copolymer membrane filtration recovery;  
**vinylphosphonic acid** copolymer recovery; sulfuric acid treatment  
polymer soln; spray dry recovery polymer; ion exchanger electrodialysis  
recovery polymer

IT Electrodialysis  
Ion exchange membranes  
Membrane filtration  
(membrane filtration of polymer containing solns.)

IT 2809-21-4, 1-Hydroxyethane-1,1-diphosphonic acid  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Briquest ADPA 60A, polymer treated by; membrane filtration of polymer  
containing solns.)

IT 27754-99-0P, Poly(**vinylphosphonic acid**) 27936-88-5P, Acrylic  
acid-**vinylphosphonic acid** copolymer 34162-79-3DP, terpolymeric  
derivs. 35065-09-9P 55972-36-6P, Methacrylic acid-  
**vinylphosphonic acid** copolymer 167682-78-2P, Acrylic  
acid-**vinylsulfonic acid-vinylphosphonic acid** copolymer  
RL: PUR (Purification or recovery); **PREP (Preparation)**  
(membrane filtration of polymer containing solns.)

IT 111972-91-9, GR 90PP 123174-39-0, ES 404 190086-17-0, Filmtec NF 45  
240132-34-7, GR 95PP  
RL: TEM (Technical or engineered material use); USES (Uses)  
(membranes; membrane filtration of polymer containing solns.)

IT 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses  
7664-93-9, Sulfuric acid, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polymer treated by; membrane filtration of polymer containing solns.)

IT 167682-78-2P, Acrylic acid-**vinylsulfonic acid-vinylphosphonic acid** copolymer  
RL: PUR (Purification or recovery); **PREP (Preparation)**  
(membrane filtration of polymer containing solns.)

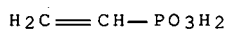
RN 167682-78-2 HCAPLUS

CN 2-Propenoic acid, polymer with ethenesulfonic acid and ethenylphosphonic  
acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

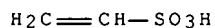
CMF C2 H5 O3 P



CM 2

CRN 1184-84-5

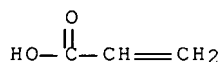
CMF C2 H4 O3 S



CM 3

CRN 79-10-7

CMF C3 H4 O2



RE.CNT 4      THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:207258 HCAPLUS Full-text

DN 128:230516

TI Preparation of phosphonosulfonate compounds, their pharmaceutical compositions, and methods for treating abnormal calcium and phosphate metabolism

IN Ebetino, Frank Hallock; Bayless, Allan Vincent; Dansereau, Susan Mary

PA Procter &amp; Gamble Co., USA

SO U.S., 43 pp., Cont.-in-part of U.S. Ser. No. 890,885, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 13

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	----	-----	-----
PI	US 5731299	A	19980324	US 1993-55809	19930507
	CA 2136823	A1	19931209	CA 1993-2136823	19930526
	CA 2136823	C	19980526		
	CA 2188066	A1	19931209	CA 1993-2188066	19930526
	CA 2188066	C	20001205		
	WO 9324495	A1	19931209	WO 1993-US4976	19930526
	W: AU, BB, BG, BR, BY, CA, CZ, FI, HU, JP, KP, KR, KZ, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9343916	A	19931230	AU 1993-43916	19930526
	AU 659565	B2	19950518		
	EP 642518	A1	19950315	EP 1993-914150	19930526
	EP 642518	B1	19980805		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	JP 07507314	T	19950810	JP 1994-500721	19930526
	JP 3781769	B2	20060531		
	HU 71907	A2	19960228	HU 1994-3411	19930526
	AT 169302	T	19980815	AT 1993-914150	19930526
	ES 2123057	T3	19990101	ES 1993-914150	19930526
	SG 90009	A1	20020723	SG 1996-7956	19930526
	HU 71906	A2	19960228	HU 1994-3405	19930527
	IL 105839	A	20010826	IL 1993-105839	19930528

	CN 1087640	A	19940608	CN 1993-108418	19930529
	CN 1089613	A	19940720	CN 1993-108223	19930529
	CN 1048017	B	20000105		
	NO 9404498	A	19950126	NO 1994-4498	19941124
	NO 305958	B1	19990823		
	FI 9405592	A	19941128	FI 1994-5592	19941128
	CN 1229083	A	19990922	CN 1999-101270	19990120
	CN 1255501	A	20000607	CN 1999-118825	19990906
PRAI	US 1992-890885	B2	19920529		
	US 1992-890886	B2	19920529		
	US 1992-891309	B2	19920529		
	US 1992-891355	B2	19920529		
	US 1992-891487	B2	19920529		
	US 1992-891490	B2	19920529		
	US 1993-55809	A	19930507		
	CA 1993-2136818	A3	19930526		
	WO 1993-US4976	A	19930526		
OS	MARPAT 128:230516				
AB	Title compds. (A)(B)C(PO3H2)(SO3R) [I; A = H, halo, (un)substituted C1-8 alkyl, amino, OH, SR1, R2SR1, where R1 = H, COR3 C(S)R3, CONR32, CO2R3, C(S)NR32, C(S)OR3, and R2 = (un)substituted C1-6 alkyl, R3 = H, (un)substituted C1-6 alkyl; B = NH2, (un)saturated substituted C1-15 alkyl or heteroalkyl chain, etc.; ABC can form a mono- or bicyclic ring; R = H, lower alkyl, lower acyloxyalkyl, aminocarbonyloxyalkyl, alkoxyalkyl, choline, acylaminoalkyl, etc.] are claimed, along with their pharmaceutically acceptable salts and esters, and pharmaceutical compns. containing a safe and effective amount of I, and pharmaceutically acceptable excipients. I are useful for treating or preventing pathol. conditions characterized by abnormal Ca and phosphate metabolism in humans or other mammals, including treating or preventing osteoporosis and arthritis, especially rheumatoid arthritis and osteoarthritis (data given). This method comprises administering to a human or other mammal in need of such treatment of a safe and effective amount of I or composition of I. In an example, 3-(2-hydroxy-2-phosphono-2-sulfoethyl)-N-(2-thioethyl)pyridinium chloride (preparation given) is formulated with 700.00 mg per tablet and used to treat rheumatoid arthritis in the hands of a patient, with noticeable reduction of knuckle <b>swelling</b> and increase in range of finger motion after 1 mo. at a dosage of 2 tablets daily.				
IC	ICM C07F013-00				
	ICS C07F015-02; C07F009-38; C07F009-40; C07F009-58; C07D213-69; C07C143-68; A61K049-00				
INCL	514079000				
CC	29-7 (Organometallic and Organometalloidal Compounds) Section cross-reference(s): 1, 63				
ST	phosphonosulfonate prepn pharmaceutical compn; calcium metab regulator phosphonosulfonate; phosphate metab regulator phosphonosulfonate; osteoporosis treatment phosphonosulfonate; arthritis treatment phosphonosulfonate; antiarthritic phosphonosulfonate treatment				
IT	Phosphates, biological studies RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (preparation of phosphonosulfonates for treatment of abnormal phosphate metabolism)				
IT	Antiarthritics Antirheumatic agents (preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)				
IT	Osteoporosis (treatment; preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)				



IT 7440-70-2, Calcium, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(preparation of phosphonosulfonates for treatment of abnormal calcium metabolism)

IT 154875-56-6P 154875-62-4P 154875-64-6P 154875-65-7P 154875-67-9P  
154875-68-0P 154875-69-1P 154875-74-8P 154875-77-1P 154875-79-3P  
204589-98-0P 204590-00-1P 204590-02-3P 204590-10-3P 204590-14-7P  
204590-17-0P 204590-19-2P 204590-21-6P 204590-23-8P 204590-24-9P  
204590-26-1P 204590-28-3P 204590-31-8P 204590-34-1P 204590-36-3P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)

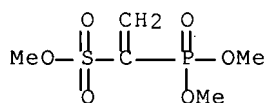
IT 154875-55-5P 154875-57-7P 154875-58-8P 154875-61-3P 154875-66-8P  
154875-70-4P 154875-71-5P 154875-72-6P 154875-76-0P 154875-78-2P  
204589-99-1P 204590-01-2P 204590-03-4P 204590-04-5P 204590-05-6P  
204590-06-7P 204590-07-8P 204590-08-9P 204590-09-0P 204590-11-4P  
204590-12-5P 204590-13-6P 204590-15-8P 204590-16-9P 204590-18-1P  
204590-20-5P 204590-22-7P 204590-25-0P 204590-27-2P 204590-29-4P  
204590-30-7P 204590-32-9P 204590-33-0P 204590-35-2P 204590-37-4P  
204590-38-5P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)

IT 107-13-1, Acrylonitrile, reactions 108-00-9, N,N-Dimethylethylenediamine  
108-02-1, 2-(Dimethylamino)ethanethiol 108-91-8, Cyclohexylamine, reactions  
109-12-6, 2-Aminopyrimidine 111-49-9, Hexamethylenimine  
123-75-1, Pyrrolidine, reactions 288-32-4, Imidazole, reactions  
462-08-8, 3-Aminopyridine 504-29-0, 2-Aminopyridine 927-70-8, S-Acetyl-2-bromoethanethiol  
2127-03-9, 2,2'-Dipyridyl disulfide  
3099-31-8, 3-(Chloromethyl)pyridine 4597-87-9, 2-(Methylamino)pyridine  
6959-47-3, 2-Picolyl chloride hydrochloride 45754-12-9, 2,3-Bis(chloromethyl)pyridine  
104322-63-6 110679-80-6  
122548-46-3 204590-39-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)

IT 154875-59-9P 154875-60-2P 154875-63-5P 154875-73-7P 154875-75-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)

IT 122548-46-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of phosphonosulfonates for treatment of osteoporosis and arthritis)

RN 122548-46-3 HCAPLUS  
CN Ethenesulfonic acid, 1-(dimethoxyphosphinyl)-, methyl ester (9CI) (CA INDEX NAME)



RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN  
AN 1997:611705 HCAPLUS Full-text  
DN 127:206070  
TI Manufacture of highly-**swellable** hydrophilic hydrogels by  
polymerization in fluidized bed  
IN Engelhardt, Fritz; Mayer, Manfred; Nickel, Uwe  
PA Hoechst A.-G., Germany  
SO Ger., 6 pp.  
CODEN: GWXXAW  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19625143	C1	19970821	DE 1996-19625143	19960624
	EP 816383	A1	19980107	EP 1997-109810	19970617
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	HU 9701079	A2	19980302	HU 1997-1079	19970623
	HU 218608	B	20001028		
	US 6150477	A	20001121	US 1997-880228	19970623
PRAI	DE 1996-19625143	A	19960624		
AB	Hydrogels are manufactured by polymerization of hydrophilic (co)monomers (no examples) in the presence of H <sub>2</sub> O, aqueous alkali, a crosslinking agent, and, optionally, polymerization initiators. The components are introduced at the bottom of a fluidized bed through multicomponent nozzles blowing upwards and immersed into the hot bed fluidized with an inert gas. The (co)monomers are heated, polymerized and dried in contact with hot bed particles and the polymerization reaction is controlled by the temperature of the inert gas. Surface properties of the resulting hydrogels can be modified by spraying modifying agents, e.g., poly(alkylene oxides), paraffins, polyamines, etc., into the fluidized bed through the nozzles and the hydrogel granules (100 µm-2 mm) are continuously discharged through a sieve and collected.				
IC	ICM C08F002-00 ICS C08F006-00; C08F002-44; B01J008-24				
ICA	C08F020-06; C08F028-02; C08F030-02; C08F022-02; C08F022-10; C08F022-06; C08F022-38; C08F020-56; C08F026-02; C08F026-10; C08F020-26; C08F020-34; A61L015-60				
CC	35-4 (Chemistry of Synthetic High Polymers)				
ST	hydrogel manuf monomer polymn fluidized bed				
IT	Ethers, uses RL: NUU (Other use, unclassified); USES (Uses) (glycidyl, hydrogel surface modifying agents; manufacture of highly- <b>swellable</b> hydrophilic hydrogels by polymerization of monomers in fluidized bed)				
IT	Paraffin oils Polyoxyalkylenes, uses RL: NUU (Other use, unclassified); USES (Uses) (hydrogel surface modifying agents; manufacture of highly- <b>swellable</b>				

hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT Fluidized beds  
Hydrogels  
(manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT Amines, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(polyamines, nonpolymeric, amido, hydrogel surface modifying agents; manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT Amines, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(polyamines, nonpolymeric, hydrogel surface modifying agents; manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT Alcohols, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(polyhydric, hydrogel surface modifying agents; manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT Polymerization  
(thermal; manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

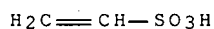
IT 9002-89-5, Poly(vinyl alcohol) 9002-98-6 9003-20-7, Poly(vinyl acetate)  
RL: NUU (Other use, unclassified); USES (Uses)  
(hydrogel surface modifying agent; manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT 79-06-1DP, Acrylamide, polymers 79-10-7DP, Acrylic acid, polymers 79-39-0DP, Methacrylamide, polymers 79-41-4DP, Methacrylic acid, polymers 88-12-0DP, polymers 108-31-6DP, Maleic anhydride, polymers 110-16-7DP, Maleic acid, monoesters, polymers 110-16-7DP, Maleic acid, polymers 1184-84-5DP, Vinylsulfonic acid, polymers 1337-81-1DP, Vinylpyridine, polymers 1746-03-8DP, Vinylphosphonic acid, polymers 2235-00-9DP, N-Vinylcaprolactam, polymers 3195-78-6DP, N-Vinyl-N-methylacetamide, polymers 3724-65-0DP, Crotonic acid, polymers 7398-69-8DP, Diallyldimethylammonium chloride, polymers 13162-05-5DP, N-Vinylformamide, polymers 26914-43-2DP, Styrenesulfonic acid, polymers 33028-26-1DP, 2-Acrylamidopropanesulfonic acid, polymers  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

IT 1184-84-5DP, Vinylsulfonic acid, polymers  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of highly-**swellable** hydrophilic hydrogels by polymerization of monomers in fluidized bed)

RN 1184-84-5 HCAPLUS

CN Ethenesulfonic acid (CA INDEX NAME)



TI Preparation and use of hydrophilic, **swellable** graft copolymers  
IN Engelhardt, Friedrich; Riegel, Ulrich; Kuehlwein, Juergen  
PA Cassella A.-G., Germany  
SO Ger. Offen., 9 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3910563	A1	19901004	DE 1989-3910563	19890401
	EP 391108	A2	19901010	EP 1990-104995	19900316
	EP 391108	A3	19920108		
	EP 391108	B1	19950118		
	R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
	US 5041496	A	19910820	US 1990-495642	19900319
	FI 97474	B	19960913	FI 1990-1385	19900320
	FI 97474	C	19961227		
	CA 2013441	A1	19901001	CA 1990-2013441	19900330
	CA 2013441	C	20001010		
	JP 03163119	A	19910715	JP 1990-81477	19900330
PRAI	DE 1989-3910563	A	19890401		
AB	The title polymers, useful as absorbents for H2O or aqueous solns., contain 0.5-20% groups X[OC(R1)CH2O]nCOZCO2[C(R1)CH2O]m]zX [R1 = H, Me; X = H, COZCO2H; Z = C1-6 alk(en)ylene, (sulfo)phenylene; m, n = 2-300; z = 1-100], 79-99% groups -CH(R4)C(R2)(R3)- [R2 = H, Me, Et; R3 = CO2H, SO3H, or phosphonyl group or their esters; R4 = H, Me, Et, CO2H], and 0.1-2% crosslinker. A polyester (I) (OH number 53, acid number ≤1) was prepared from polyethylene glycol 1.35, 1,2-propanediol 6.75, and di-Me terephthalate 4.05 mol. Emulsion polymerization of 100 g I with 1888 g acrylic acid (as the Na salt) and 12 g trimethylolpropane triacrylate gave a graft polymer showing good fluid retention when used in diapers.				
IC	ICM C08F283-06				
	ICS C02F001-28; A61F013-15; A61F013-20; A61L015-22				
ICA	C08F283-02				
ICI	C08F283-00, C08F220-06, C08F220-58, C08F222-02, C08F228-02, C08F230-02				
CC	35-4 (Chemistry of Synthetic High Polymers)				
	Section cross-reference(s): 63				
ST	absorbent water graft polymer; diaper absorbent graft polymer; terephthalate polyester grafted absorbent; polyoxyalkylene polyester grafted absorbent; acrylate sodium graft polymer				
IT	Diapers				
	(adsorbents for, unsatd. acid-polyester polyoxyalkylenes as)				
IT	Absorbents				
	(for water, unsatd. ester-grafted polyester-polyoxyalkylenes as)				
IT	Polyoxyalkylenes, compounds				
	RL: USES (Uses)				
	(polyester-, graft polymers, with unsatd. acids and crosslinking agents, absorbents for water, manufacture of)				
IT	Polyesters, compounds				
	RL: USES (Uses)				
	(polyoxyalkylene-, graft polymers, with unsatd. acids and crosslinking agents, absorbents for water, manufacture of)				
IT	134337-65-8	134337-68-1	134337-70-5	134337-72-7	
	134337-74-9	134337-76-1	134337-78-3	134337-80-7	134337-82-9
	134337-84-1	134337-86-3	134337-88-5	134337-90-9	
	134337-92-1	134337-94-3	134337-96-5	134337-98-7	
	134338-00-4	134338-02-6	134338-04-8	134417-73-5	134451-16-4
	RL: USES (Uses)				
	(absorbents, for water, manufacture of)				

IT 134337-72-7 134337-90-9 134337-96-5

RL: USES (Uses)

(absorbents, for water, manufacture of)

RN 134337-72-7 HCAPLUS

CN 1,4-Benzenedicarboxylic acid, dimethyl ester, polymer with  
3,3',3'',3'''-[1,2-ethanediylidenetetrakis(oxy)]tetrakis[1-propene],  
ethenylphosphonic acid,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-  
ethanediyl), 1,2-propanediol and 2-propenoic acid, sodium salt, graft  
(9CI) (CA INDEX NAME)

CM 1

CRN 134337-71-6

CMF (C14 H22 O4 . C10 H10 O4 . C3 H8 O2 . C3 H4 O2 . C2 H5 O3 P . (C2 H4  
O)n H2 O)x

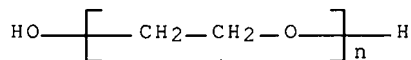
CCI PMS

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

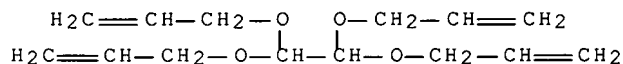
CCI PMS



CM 3

CRN 16646-44-9

CMF C14 H22 O4



CM 4

CRN 1746-03-8

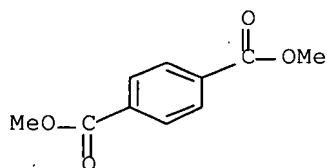
CMF C2 H5 O3 P



CM 5

CRN 120-61-6

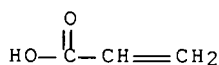
CMF C10 H10 O4



CM 6

CRN 79-10-7

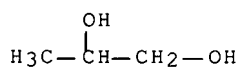
CMF C3 H4 O2



CM 7

CRN 57-55-6

CMF C3 H8 O2



RN 134337-90-9 HCAPLUS

CN 2-Propenoic acid, polymer with bis[(1-oxo-2-propenyl)amino]acetic acid, ethenylphosphonic acid, 2,5-furandione,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid, sodium salt, graft (9CI) (CA INDEX NAME)

CM 1

CRN 134337-89-6

CMF (C8 H10 N2 O4 . C7 H13 N O4 S . C4 H2 O3 . C3 H4 O2 . C2 H5 O3 P . (C2 H4 O)n H2 O)x

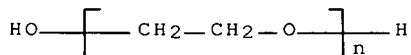
CCI PMS

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

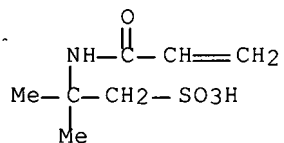
CCI PMS



CM 3

CRN 15214-89-8

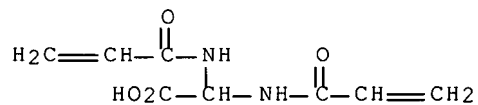
CMF C7 H13 N O4 S



CM 4

CRN 4387-85-3

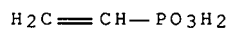
CMF C8 H10 N2 O4



CM 5

CRN 1746-03-8

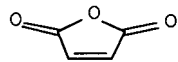
CMF C2 H5 O3 P



CM 6

CRN 108-31-6

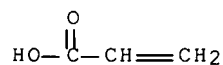
CMF C4 H2 O3



CM 7

CRN 79-10-7

CMF C3 H4 O2



RN 134337-96-5 HCAPLUS

CN 1,4-Benzenedicarboxylic acid, dimethyl ester, polymer with  
bis[(1-oxo-2-propenyl)amino]acetic acid, ethenesulfonic acid,  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl),  
2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and  
1,2-propanediol, sodium salt, graft (9CI) (CA INDEX NAME)

CM 1

CRN 134337-95-4

CMF (C10 H10 O4 . C8 H10 N2 O4 . C7 H13 N O4 S . C3 H8 O2 . C2 H4 O3 S .  
(C2 H4 O)n H2 O)x

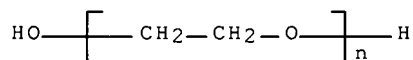
CCI PMS

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

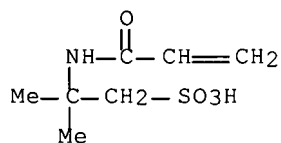
CCI PMS



CM 3

CRN 15214-89-8

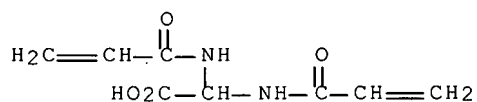
CMF C7 H13 N O4 S



CM 4

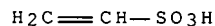
CRN 4387-85-3

CMF C8 H10 N2 O4

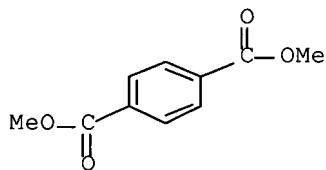




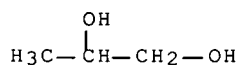
CM 5

CRN 1184-84-5  
CMF C2 H4 O3 S

CM 6

CRN 120-61-6  
CMF C10 H10 O4

CM 7

CRN 57-55-6  
CMF C3 H8 O2

L89 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1987:638211 HCAPLUS Full-text

DN 107:238211

TI Moisture-permeable soft leather substitutes

IN Piperkov, Vladislav; Topek, Karel; Svoboda, Jiri; Ponik, Josef

PA Czech.

SO Czech., 11 pp.

CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	CS 237739	B1	19851016	CS 1983-9943	19831227
PRAI	CS 1983-9943		19831227		

AB Soft artificial leathers, with improved permeation of moisture and suitable for footwear linings are prepared by coating a textile base with a 0.05-0.8-mm-thick layer (0.05-0.2 kg/m<sup>2</sup>, volume weight 300-800 kg/m<sup>3</sup>) of mech. foamed

aqueous dispersions of elastomers [carboxylated acrylonitrile-butadiene copolymer (I) or SBR, polyurethane, plasticized PVC or poly(vinylidene chloride), 3-8:2-7 acrylonitrile-butadiene rubber/PVC mixture, ethylene-vinyl acetate copolymer, or copolymers of (meth)acrylic acid] containing phenol-, urea-, or melamine-CH<sub>2</sub>O copolymers as crosslinking agents, emulsifiers, and ≤30% water-swelling polyelectrolyte complexes from oppositely charged natural or synthetic polyelectrolytes with equivalent weight <103 (on ionic group) which coagulate on changing pH from 9-10 to 3.5-8. Proteins, gelatin, casein, CM-cellulose (II), alginates, gum arabic, poly[(meth)acrylic acid], copolymers of vinyl alkyl ethers with maleic acid, poly(styrenesulfonic acid), sulfonated poly(vinyl alc.), poly(ethylenesulfonic acid), or poly(vinylphosphoric acid) are used as polyanions, and poly(ethylenimine) (III), a poly(vinylamine), poly-(vinylpyrrolidone), or poly(vinylpyridine) are used as polycations. Thus, an auxiliary base was coated (0.005-0.40 kg/m<sup>2</sup>) with 25% solution of reactive polyurethane in 2:2:3:1 Me<sub>2</sub>CO-cyclohexanone-PhMe-iso-ProH (mixture) 100, pigments 20, and silicone oil or wax 1 part, dried, coated (0.060-0.080 kg/m<sup>2</sup>) with a foamy layer (650 kg/m<sup>3</sup>) containing 45-50% aqueous dispersion of a 8:2 mixture of I and internally plasticized PVC (pH 5-7) 100, active ZnO 3, melamine-CH<sub>2</sub>O copolymer (65% solution) 2, casein dye 7, octadecylamide of sulfosuccinic acid (35% solution) 1.5, NH<sub>4</sub> stearate (50% solution) 0.5, 25% NH<sub>4</sub>OH (up to pH 10) 1, 10% II 4, and 40% III 4 parts, dried at 75° with pH decreasing to 6 and causing formation of a polyelectrolyte complex, coated with an adhesive layer of the same composition, laminated with a textile base, dried at 70-80°, crosslinked at 120-140°, and separated from the resulting laminate to give a leather substitute.

IC ICM D06N003-00

CC 38-3 (Plastics Fabrication and Uses)

ST moisture permeable soft leather substitute; nitrile rubber leather substitute softness; softness synthetic rubber leather substitute; polyelectrolyte coating leather substitute; crosslinked synthetic rubber leather substitute; vinyl polymer leather substitute softness; polyurethane leather substitute softness

IT Rubber, butadiene-styrene, uses and miscellaneous

Rubber, nitrile, uses and miscellaneous

Rubber, synthetic

RL: USES (Uses)

(crosslinked with formaldehyde copolymers, containing polyelectrolyte, leather substitutes from fabrics coated by, with improved softness and moisture permeability)

IT Vulcanization accelerators and agents

(formaldehyde-phenol copolymers or amino resins, for synthetic rubber, for manufacture of moisture-permeable leather substitutes)

IT Polyelectrolytes

(synthetic elastomer coatings containing, for manufacture of leather substitutes

with improved moisture permeability)

IT Leather substitutes

(textiles coated with crosslinked synthetic elastomers containing polyelectrolytes as, with improved softness and moisture permeability)

IT Rubber, nitrile, uses and miscellaneous

RL: USES (Uses)

(carboxy-containing, crosslinked with formaldehyde copolymers, containing polyelectrolyte, leather substitutes from fabrics coated by, with improved softness and moisture permeability)

IT Shoes

(linings, leather substitutes for, fabrics coated with crosslinked synthetic elastomers containing, polyelectrolytes and, with improved moisture permeability and softness)

IT 9002-85-1, Poly(vinylidene chloride) 9002-86-2, PVC 24937-78-8,

Ethylene-vinyl acetate copolymer

RL: USES (Uses)  
(crosslinked with formaldehyde copolymers, rubber, containing polyelectrolytes, leather substitutes from fabrics coated by, with improved softness and moisture permeability)

IT 9003-08-1, Formaldehyde-melamine copolymer 9003-35-4, Formaldehyde-phenol copolymer 9011-05-6

RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agent, for synthetic rubber, for manufacture of moisture-permeable leather substitutes)

IT 9000-01-5, Gum arabic 9002-89-5D, Poly(vinyl alcohol), sulfonated 9002-98-6, Polyethylenimine 9003-01-4, Poly(acrylic acid) 9003-39-8 9003-47-8, Poly(vinylpyridine) 9004-32-4, Carboxy methyl cellulose 9011-14-7 26101-52-0, Poly(ethylene sulfonic acid) 26336-38-9, Poly(vinyl amine) 27754-99-0 50851-57-5, Poly(styrene sulfonic acid)

RL: USES (Uses)  
(polyelectrolytes, synthetic elastomer coatings containing, for manufacture of moisture-permeable leather substitutes)

IT 9003-18-3

RL: USES (Uses)  
(rubber, carboxy-containing, crosslinked with formaldehyde copolymers, containing polyelectrolyte, leather substitutes from fabrics coated by, with improved softness and moisture permeability)

IT 9003-18-3 9003-55-8

RL: USES (Uses)  
(rubber, crosslinked with formaldehyde copolymers, containing polyelectrolyte, leather substitutes from fabrics coated by, with improved softness and moisture permeability)

IT 26101-52-0, Poly(ethylene sulfonic acid) 27754-99-0

RL: USES (Uses)  
(polyelectrolytes, synthetic elastomer coatings containing, for manufacture of moisture-permeable leather substitutes)

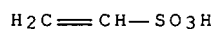
RN 26101-52-0 HCAPLUS

CN Ethenesulfonic acid, homopolymer (CA INDEX NAME)

CM 1

CRN 1184-84-5

CMF C2 H4 O3 S



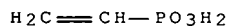
RN 27754-99-0 HCAPLUS

CN Phosphonic acid, P-ethenyl-, homopolymer (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



L89 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN  
AN 1984:157654 HCAPLUS Full-text  
DN 100:157654  
TI Crosslinking agent for water-**swellable** polymers  
IN Schmitz, Hermann; Kuehle, Klaus  
PA Cassella A.-G., Fed. Rep. Ger.  
SO Ger. Offen., 30 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	DE 3225555	A1	19840112	DE 1982-3225555	19820708
	US 4522997	A	19850611	US 1983-501537	19830606
	EP 100423	A1	19840215	EP 1983-106020	19830621
	R: DE, FR, GB, IT				
	JP 59022939	A	19840206	JP 1983-122436	19830707
PRAI	DE 1982-3225555	A	19820708		
OS	MARPAT 100:157654				

AB 1-(2-Alkenyl)-3-methylene-2-pyrrolidone derivs. are crosslinking agents for water-**swellable** polymers, useful in sanitary products. Thus, stirring acrylic acid 200, 50% NaOH 222.2, and H<sub>2</sub>O 341.8 g with 20 mg 5,5-dimethyl-3-methylene-1-(2-propenyl)-2-pyrrolidone (I) and 120 mg (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub> at 85° gave a copolymer [89657-80-7] gel which was dried and pulverized. This polymer absorbed 30.5 and 43.6 g synthetic blood/g and 35.6 and 43.4 g synthetic urine/g in 30 and 180 min, resp., compared with 24.3, 29.7, 28.7, and 40.3 g/g, resp., for a polymer prepared similarly with glycol bis(vinylphosphonate) esters in place of I.

IC C08K005-34; C08J003-24; C08L033-00; A61K031-785

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 63

ST absorbent body fluid; crosslinker polymer absorbent; methylenepyrrolidone propenyl crosslinker; propenylpyrrolidone methylene crosslinker; pyrrolidone methylenepropenyl crosslinker; acrylate sodium polymer crosslinker

IT Surgical dressings and goods

(di-Me methylene propenyl pyrrolidone derivative-crosslinked absorbent polymers for)

IT Crosslinking agents

(di-Me methylene propenyl pyrrolidone derivs., for water-**swellable** polymers)

IT Absorbents

(for body fluids, di-Me methylene propenyl pyrrolidone derivative-crosslinked polymers as)

IT 89657-73-8 **89657-74-9** 89657-75-0 89657-76-1 89657-77-2

89657-78-3 89657-79-4

RL: USES (Uses)

(absorbents for body fluids)

IT 89657-80-7

RL: USES (Uses)

(adsorbents for body fluids)

IT **89657-74-9**

RL: USES (Uses)

(absorbents for body fluids)

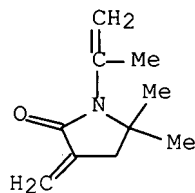
RN 89657-74-9 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, polymer with 5,5-dimethyl-3-methylene-1-(1-methylethenyl)-2-pyrrolidinone, 2-propenamide and sodium ethenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 73018-15-2

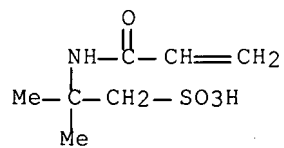
CMF C10 H15 N O



CM 2

CRN 15214-89-8

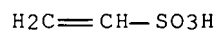
CMF C7 H13 N O4 S



CM 3

CRN 3039-83-6

CMF C2 H4 O3 S . Na

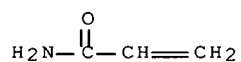


● Na

CM 4

CRN 79-06-1

CMF C3 H5 N O



L89 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1983:161730 HCAPLUS Full-text

DN 98:161730

TI Water-swellaable crosslinked copolymers and their use

IN Engelhardt, Friedrich; Schmitz, Hermann; Kleiner, Hans Jerg; Lask, Helmut; Holst, Arno

PA Cassella A.-G., Fed. Rep. Ger.

SO Eur. Pat. Appl., 27 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 68159	A1	19830105	EP 1982-104746	19820529
	R: DE, FR, GB, IT				
	DE 3124454	A1	19830714	DE 1981-3124454	19810622
	JP 58005305	A	19830112	JP 1982-105563	19820621
PRAI	DE 1981-3124454	A	19810622		
OS	MARPAT 98:161730				

AB The title polymers, useful as absorbents (especially for physiol. fluids), contain olefins 0-60, N-vinylamides 0-40, alkenamides 10-95, and crosslinking monomers [bisalkenamides or ethylene alkenylphosphonates] 0.001-2%. Thus, heating 950 g (ClCH<sub>2</sub>CH<sub>2</sub>O)<sub>3</sub>PO rearrangement mixture containing 50% ClCH<sub>2</sub>CH<sub>2</sub>P(O)(OCH<sub>2</sub>CH<sub>2</sub>Cl)<sub>2</sub> and 16% ClCH<sub>2</sub>CH<sub>2</sub>P(O)(OCH<sub>2</sub>CH<sub>2</sub>Cl)OCH<sub>2</sub>CH<sub>2</sub>P(O)(OCH<sub>2</sub>CH<sub>2</sub>Cl)<sub>2</sub> with 2 g soda for 4 h at 170-200° with distillation of C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub> and 4 h at 170-200° gave 484 g ethylene (Na vinylphosphonate) [85323-50-8]. Stirring this product 0.1, acrylamide 150, N-vinylpyrrolidone 40, 2-acrylamido-2-methylpropanesulfonic acid 10, NaOH 25.6, H<sub>3</sub>BO<sub>3</sub> 38.4, (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub> 0.120, and H<sub>2</sub>O 560 g 8 h at 90° gave a polymer [85323-44-0] gel which was cut up, dried, and ground. This solid when left in synthetic blood absorbed 25.2 and 42.0 g/g after 0.5 and 3 h, resp., and in synthetic urine 30.5 and 40.8 g/g, resp., compared with 23.7, 29.8, 26.1, and 36.5, resp., for a com. acrylic polymer.

IC C08F220-56; A61L015-00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 29

ST absorbent copolymer gel; vinylpyrrolidone copolymer gel absorbent; acrylamide copolymer gel absorbent; propanesulfonic acid acrylamidomethyl copolymer; vinylphosphonate ethylene ester copolymer; crosslinker acrylamide copolymer absorbent

IT Absorbents

(acrylamide copolymer gels, for body fluids)

IT Crosslinking agents

(bisacrylamides and ethylene alkenyl phosphonates, for acrylamide copolymer absorbents)

IT 70144-13-7 85323-44-0 85323-47-3 85323-48-4 85323-49-5  
85323-52-0

RL: USES (Uses)

(absorbent, for body fluids, manufacture of)

IT 85323-50-8P

RL: PREP (Preparation)

(preparation of)

IT 6294-34-4 58823-09-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with soda)

IT 85323-48-4

RL: USES (Uses)

(absorbent, for body fluids, manufacture of)

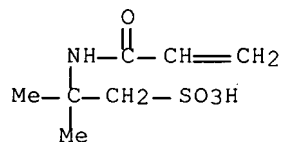
RN 85323-48-4 HCAPLUS

CN Acetic acid, bis[(1-oxo-2-propenyl)amino]-, polymer with  
2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid, 2-propenamide  
and sodium ethenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 15214-89-8

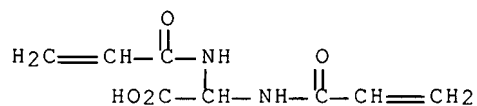
CMF C7 H13 N O4 S



CM 2

CRN 4387-85-3

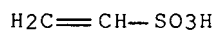
CMF C8 H10 N2 O4



CM 3

CRN 3039-83-6

CMF C2 H4 O3 S . Na



● Na

CM 4

CRN 79-06-1

CMF C3 H5 N O

